Status of WATR Systems

C-band, S-band, UHF/VHF

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Status of WATR Systems

- C-band
  - Data Enhancement System (DES)
  - Radar Information Processing System (RIPS)
  - Upgrades
  - GN Support
  - Future plans

- S-band
  - Triplex (7 Meter Prime) & MFTS (7 Meter Backup) upgrades
  - Shuttle Data Processing System
    - Bit Sync upgrade
    - NISN upgrade
  - GN support
  - Future plans

Status of WATR Systems Cont'd

- **UHF/VHF & ISS Systems**
  - **Future plans**

C-band

- DES
  - Continues to function nominally; No lock up problems since 7/01
  - DES replacement (RIPS) in progress

- RIPS
  - Phase III completed 7/02
    - Installation and integration
    - Non-intrusive testing during STS-111
    - Non-intrusive testing during ISS C-band proficiency passes
  - Phase IV scheduled to start 10/02
    - Mission suitability testing
  - Phase V
    - Replace DES

- Upgrades
  - FRCC (R34) transmitter “Corner Cutter” installed 2/02
    - Extensive use over the last six (6) months with no anomalies
  - FRFC (R38) depot level maintenance completed 6/02

C-band Cont'd

- GN Support
  - Supported STS-109, 110 and 111 since last NSG
    - Tracked 23 HST, 54 ISS and 177 STS orbits
    - Supported the landing of STS-111 at Edwards

- Future plans
  - FRCC (R34) scheduled for depot level maintenance 10/02
  - Cornet matrix switcher for S and C band systems will be replaced by a Universal Switch Corp. switcher after STS-113
    - RF, IF, Data, Video, AGC

S-band

- TRIPLEX
  - DLM completed 6/02
    - Replaced broken gear in elevation gear box
  - CANDOS
    - SN launch head testing continues
    - Uplink PA bypass mod installed and checked out

- Shuttle Data Processing System
  - Avtec PC based bit sync upgrade
    - PSS and non-intrusive STDN mode testing on STS-106,92,97,98,102,100,104,105,108,109,110 and 111
    - TDRSS data testing successfully completed on 9/12/02
    - Cut-over to Avtec bit syncs complete
    - Legacy Viterbi decoder in conjunction with Avtec bit sync

S-band Cont'd

- NISN Circuit Upgrade for FM Dumps
  - Successful testing with GSFC and JSC performed on 9/12/02
  - Capable of flowing up 1024 kb/sec FM dump real-time

- GN Support
  - Supported STS-109, 110 and 111
  - Supported the STS-111 landing at Edwards

- Future plans
  - MFTS
    - Depot level maintenance (DLM) scheduled 10/02
    - Uplink PA (power amp) bypass mod to be installed during DLM period
    - Selectable right hand/left hand circular transmit capability to be installed during DLM period
  - Triplex
    - Selectable right hand/left hand circular transmit capability to be installed prior to STS-112

UHF/VHF

- UHF
  - No new changes implemented
  - Future plan
    - Automatic Best Receive Source Selection System implemented as workload permits.
- VHF
  - No new changes implemented

ISS COMM SYSTEM

- No new changes implemented
- Future Upgrades
  - High efficiency duplexor on VHF 1 back-up
  - High Power amplifier on VHF 2 backup
  - VHF scheduled to move (Fall 02)
    - Currently 20 ft tower
    - New location 35 ft tower